

**Iowa Department of Natural Resources  
Environmental Protection Commission**

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**ITEM**

**9**

**DECISION**

**TOPIC**

**Contract - University Hygienic Laboratory – 2006 Cooperative Groundwater Network**

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The Department requests Commission approval of a contract for University Hygienic Laboratory analytical services totaling \$107,835 for the time period of July 1, 2006 through March 1, 2007. The contract is titled: 2006 Cooperative Groundwater Network.

This program is designed to identify water quality trends, identify emerging issues, and document water quality from important aquifers in situations that are both identified as vulnerable and protected by natural conditions throughout Iowa. The purpose of this contract is to obtain chemical analyses from an established network of 90 wells monitored through the past decade as part of a cooperative program between the Iowa Department of Natural Resources (Geological Survey Bureau) and the U.S. Geological Survey (USGS). Existing wells are sampled by USGS staff and brought to the UHL for analysis. In addition, sixty randomly selected wells are chosen from a different aquifer system each year, this year those wells will be chosen from the Pleistocene aquifer systems in the state. These sixty new wells are rotated from year to year between various groundwater resources of interest and help to identify any existing or potential threats to the water quality in these aquifers. Results from all the samples are published in an annual USGS data publication. Results from the past 10 years are being used to produce a report describing water quality trends. All data will be reported to both the national United States Geological Survey database and in Iowa's STORET database, where it is available to the public on the internet.

Funding for this contract is available from infrastructure state funds as a part of the Environment First Fund.

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Water Monitoring and Assessment Section  
Iowa Geological Survey and Land Quality Bureau

June 27, 2006

**Table 1. List of Tests Performed on Groundwater Samples**

<b>General Water Quality</b>	<b>Nutrients</b>	<b>Organophosphate Insecticides</b>	<b>Chlorinated Hydrocarbon Insecticides</b>	<b>Regulated and Unregulated VOCs (Volatile Organic Compounds)</b>
Specific Conductance	Ammonia-N (N-series)	Terbufos (Counter)	Aldrin	benzene
pH	NO <sub>2</sub> +NO <sub>3</sub> -N (N-series)	Fonofos (Dyfonate)	alpha, beta, delta-BHC	carbon tetrachloride
Dissolved Oxygen	Organic-N (N-series)	Chlorpyrifos (Lorshan)	Lindane (gamma-BHC)	1,2-dichlorethane
Total Hardness	Total P	Ethoprop (Mocap)	DDD	trichlorethylene
Alkalinity	Dissolved Ortho P	Phorate (Thimet)	DDE	1,1-dichloroethylene
Total Dissolved Solids	TOC	Carbofuran	DDT	1,1,1-trichlorethane
	TSS	Malathion	Methoxychlor	para-dichlorobenzene
<b>Metals</b>	Turbidity	Dimethoate	Dieldrin	vinyl chloride
Dissolved Iron		Dichlorvos	Endosulfan I	cis-1,2-dichloroethylene
Dissolved Manganese	<b>Common Herbicides</b>	Disulfoton	Endosulfan II	1,2-dichloropropane
Dissolved Calcium	Atrazine	Diazinon	Endosulfan sulfate	ethyl benzene
Dissolved Magnesium	Cyanazine (Bladex)	Isofenphos	Endrin	chlorobenzene
Dissolved Sodium	Metolachlor (Dual)	Methyl parathion	Endrin aldehyde	0-dichlorobenzene
Dissolved Potassium	Alachlor (Lasso)	Parathion (Ethyl Parathion)	Endrin ketone	styrene
Dissolved Fluoride	Metribuzin (Sencor)		Heptachlor	tetrachloroethylene
Dissolved Silica	Butylate (Sutan)	<b>Acid Herbicides</b>	Heptachlor epoxide	toluene
Dissolved Chloride	Trifluralin (Treflan)	2,4-D	Chlordane	(m+p) + (o) xylenes
Dissolved Sulfate	Acetochlor	Dicamba	Toxaphene	dichloromethane
Total Cyanide	Deethyl Atrazine	Silvex		trans-1,2-dichloroethylene
Beryllium	Deisopropyl Atrazine	Picloram		1,1,2-trichloroethane
Cadmium		Bentazon	<b>Radionuclides</b>	1,2,4-trichlorobenzene
Total Chromium	<b>Extended Herb. List</b>	2,4,5-T	Gross Alpha	chloroform
Copper	Prometon	2,4-DB	Gross Beta	bromodichloromethane
Lead	Simazine	Acifluorfen	Radium 226 & 228	chlorodibromomethane
Antimony	Ametryn	Bromoxynil		bromoform
Nickel	EPTC (Eptam)	Chloramben		m-dichlorobenzene
Selenium	Propachlor	Chlorthal-dimethyl		dibromomethane
Thallium	Propazine	Dichlorprop		1,1-dichloropropene
Zinc	Dimethenamid	Dinoseb		1,1-dichloroethane
Silver	Bromacil	Pentachlorophenol		1,1,2,2-tetrachloroethane
Arsenic	Butachlor	Triclopyr		1,3-dichloropropane
Dissolved Strontium	Carbaryl (Sevin)			chloromethane
Dissolved Aluminum	Clomazone			bromomethane
Dissolved Barium	Pendimethalin (Prowl)			1,2,3-trichloropropane
Dissolved Boron	Triallate			chloroethane
Dissolved Mercury	Carbofuran (Furadon)			2,2-dichloropropane
				o-chlorotoluene
				p-chlorotoluene
				Bromobenzene
				Cis & Trans 1,3-dichloropropene
				1,1,1,2-tetrachloroethane
				Methyl tertiary butyl ether (MtBe)

**Table 2. Regular Fixed Well Network (90 wells)**

Date Drilled	Well Name	County
1949	Albert City 1	Buena Vista
1995	Armstrong 7	Emmet
1961	Belle Plaine 4	Tama
1960	Blockton 1	Taylor
1971	Blue Grass (2),1	Scott
1940	Boone 20	Boone
1976	Brayton 1	Audubon
1956	Camanche 2	Clinton
1979	Carlisle 5	Polk
		Pottawattami
1975	Carson (5) 3	e
1970	Cedar Rapids S6	Linn
1996	Cherokee 10	Cherokee
1962	Conrad 3	Grundy
1938	Coon Rapids 1, Nor	Carroll
1927	Correctionville 1	Woodbury
1978	Cumberland (5) 4	Cass
1921	Cumberland 1	Cass
1923	De Witt 3	Clinton
1972	Decorah 6	Winneshiek
1969	Dubuque 9	Dubuque
1952	Eagle Grove 3	Wright
1968	East Amana 2	Iowa
1995	Eddyville 3	Wapello
1929	Eldridge 2	Scott
1954	Elgin 2	Fayette
1994	Fairfield 94-1	Jefferson
1980	Farragut 79-2 (Nor	Fremont
1976	Fontanelle 5	Adair
1934	Forest City 2	Winnebago
1931	Fort Dodge 12	Webster
1991	Fort Madison 4	Lee
1964	Goodell 1	Hancock
1975	Grandview 3	Louisa
1948	Greene1	Butler
1955	Grinnell 7	Poweshiek
1931	Hawarden 2	Sioux
1985	Holstein 3	Ida
1987	Holy Cross 1	Dubuque
1965	Ida Grove 3	Ida
1957	Jesup 2	Buchanan

1943	Keota 2	Keokuk
1956	Kingsley 1	Plymouth
1934	Klemme 1	Hancock
1959	Klemme 2	Hancock
1952	Ladora 1	Iowa
1988	Lester (4) 2	Lyon
1968	Lime Springs 2	Howard
1966	Linden 3	Dallas
1981	Manchester 7	Delaware
1973	Mapleton 5	Monona
1981	Marshalltown 14	Marshall
1977	Marshalltown 8	Marshall
1951	Mondamin 2, South	Harrison
1977	Monticello 4	Jones
1955	Newton 13	Jasper
1990	Nodaway 4	Adams
1964	Osage 5	Mitchell
1987	Perry 9R	Dallas
1967	Pilot Mound 3	Boone
1967	Quimby 1	Cherokee
1917	Riceville 1	Mitchell
1961	Riverside 5	Washington
1956	Russell 1	Lucas
1895	Sabula 1	Jackson
1960	Saint Ansgar 2	Mitchell
1985	Shambaugh 3	Page
1956	Sheffield 2	Franklin
1968	Shelby 5	Shelby
1949	Sheldon 5	O'Brien
1932	Shellsburg 2	Benton
1978	Silver City 3	Mills
1971	Sioux City River 4	Woodbury
1977	Sioux Rapids 2	Buena Vista
1945	Slater 1	Story
1953	Stanton 1	Montgomery
1948	Stockton 1	Muscatine
1966	Tama 5	Tama
1894	Traer 2	Tama
1936	Vail (1),2	Crawford
1971	Wall Lake 3	Sac
1960	Waterloo 17	Black Hawk
1899	Waukon 2	Allamakee
1960	Wellsburg 1	Grundy
1949	West Bend 2	Palo Alto
1979	West Branch 4	Cedar

1957

West Chester 1

Washington